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DEPARTMENT OF ENVIRONMENTAL QUALITY  
DIVISION OF WATER QUALITY PROGRAMS  
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**SUBJECT:** Guidance Memorandum No. 07-2012  
Assigning Operator License Classes

**TO:** Regional Directors

**FROM:** Ellen Gilinsky, Ph.D., Director 

**DATE:** October 10, 2007

**Copies:** James Golden, Rick Weeks, Regional Water Permit Managers, Regional Water Compliance Managers, Kyle Winter, Bill Purcell, Marcia Degen

**Summary:**

The VPDES Permit and the VPA Permit Regulations establish a requirement for an owner to employ a licensed operator. The purpose of this guidance is to provide guidance to ensure license classifications assigned to treatment facility are consistent and based on the current regulations of the State Board for Waterworks and Wastewater Works Operators.

When determining the license classification required for a treatment facility, the attached chart (Attachment A) based on the Board for Waterworks and Wastewater Works Operator Regulations, 18 VAC 160-20-130 Sections A,B,C & D, (Attachment B) should be used. Facilities that do not use processes identified in the chart should be evaluated on a case by case basis and assigned to the license classification that most closely reflects the flow level and treatment method. Documentation of the rationale used to assign the operator classification should be included with the permit development records.

When evaluating the need for a licensed operator requirement at a facility within the excluded categories facility size, process complexity, compliance history and discharge location should be considered. If determined to be appropriate the facility should then be assigned the license classification that most closely reflects the facility's flow and treatment process.

This guidance supersedes guidance memo GM04-2002 *Wastewater Works Licensed Operator Requirements*.

**Electronic Copy:**

An electronic copy of this guidance in PDF format is available for staff internally on DEQNET, and for the general public on DEQ's website at <http://www.deq.virginia.gov/waterguidance/>.

**Contact information:**

Please contact Wayne Staples, Office of Operator Training, 804 698 4106, or [dwstaples@deq.virginia.gov](mailto:dwstaples@deq.virginia.gov), if you have any questions about this guidance.

**Disclaimer:**

**This document is provided as guidance and, as such, sets forth standard operating procedures for the agency. However, It does not mandate any particular method nor does it prohibit any particular method for the analysis of data, establishment of a wasteload allocation, or establishment of a permit limit. If alternative proposals are made, such proposals should be reviewed and accepted or denied based on their technical adequacy and compliance with appropriate laws and regulations.**

## Discussion:

The VPDES Permit Regulation (9 VAC 25-31-200 D) and the VPA Permit Regulation (9 VAC 25-32-190) require permittees to *"employ or contract the services of at least one licensed operator appropriate for the permitted facility"*. These regulations also state that *"the license shall be issued in accordance with Title 54.1 of the Code of Virginia and the regulations of the Board for Waterworks and Wastewater Works Operators (18 VAC 16020-10 et seq.)"*. With the exception of specific exemptions stated in the regulation (listed below) the requirement to have a licensed operator applies to all treatment facilities operating under a VPDES or VPA permit. Facilities excluded from the licensed operator requirement can, on a case by case basis, be required to employ licensed operators if DEQ determines the potential impact of the discharge, process complexity or other factors warrant.

The regulation excludes facilities that:

1. have a design capacity equal to or less than 0.04 MGD;
2. discharge industrial wastes or other wastes from coal mining operations; or,
3. do not use biological or physical/chemical treatment.

For consistency the license classification specified in the permit should be based on the wastewater works descriptions provided in the Board for Waterworks and Wastewater Works Operators regulations (18 VAC 160-20-130 Sections A, B, C, & D). The classifications contained in the Board regulations apply to both municipal and industrial treatment facilities.

The License Board regulations identify a number of treatment categories that require a licensed operator only if "certified" to require a licensed operator by the State Water Control Board. For plants in these categories certification occurs when a licensed operator requirement is included in the plant's VPDES or VPA permit.

Plant classifications from other sources should not be substituted for the referenced sections of the Board for Waterworks and Wastewater Works Operators. However, where the classification of a domestic (municipal) treatment facility is in question, refer to Table 1 of Part II of the Sewage Collection and Treatment Regulations (9 VAC 25-790-300) for guidance. In all cases where the classification of a municipal treatment facility is in question the Office of Wastewater Engineering Regional Engineer should also be consulted.

The license classifications established by the License Board are based on Board evaluation of the various types and sizes of treatment systems. Once a classification is established a series of actions are taken to determine the competency requirements for that classification. This is accomplished through the use of job surveys, task analyses, and other evaluation techniques. Classification requirements (education, experience and exam content) are then developed to ensure that a successful applicant is at least minimally qualified to perform the duties of a licensed operator of the specified classification. While there is significant overlap between technical competencies in each of the license classifications requiring a higher license

classification does not automatically mean the facility will receive more attention and/or better operation. In most cases it imposes a significant financial burden on the facility owner and has minimal impact on the facility operation. If the plant is not performing satisfactorily under the supervision of a Class IV operator requiring a Class III or higher licensed operator does not ensure better performance. Additional evaluation to determine the specific cause(s) of the problems should be made and, if determined to be operator related, consideration should be given to requesting DPOR enforcement actions to assess operator competency.

## Attachment A

### Summary of Plant/Operator Classifications<sup>1</sup>

	Class IV	Class III	Class II	Class I
Natural Not using aerated or mixed flows and not using electrical or outside energy sources to accomplish treatment	> 0.04 but #1.0 MGD	>1.0 MGD	N/A	N/A
Biological Suspended Growth reactors Aerated lagoons biological filters Other attached growth systems Biological nutrient control Land application Other biological methods	<0.04 MGD If certified by DEQ	>0.04 MGD but #0.50 MGD	>0.50 MGD but #5.00 MGD	> 5.00 MGD
Advanced Waste Treatment Ammonia stripping Breakpoint chlorination Carbon adsorption Chemical coagulation Flocculation Precipitation Filtration Demineralization (i.e. ion exchange, reverse osmosis, electro dialysis) Other AWT methods	<0.04 MGD If certified by DEQ	>0.04 MGD but #0.50 MGD	>0.50 MGD but #5.00 MGD	> 5.00 MGD
Combinations of Biological & Advanced Waste Treatment	<0.04 MGD If certified by DEQ	>0.04 MGD but #0.10 MGD	>0.10 MGD but #2.5 MGD	> 2.50 MGD
Other/Unspecified <sup>2</sup>	If certified by DEQ	If certified by DEQ	If certified by DEQ	If certified by DEQ

Note Certified = Required by VPDES or VPA permit

- 1 Although permitted by regulation specifying a higher license classification than is justified by the plant's flow and process it is not recommended without documentation to support determination that a higher class operator has the potential to significantly improve operation and/or compliance.
- 2 The "Other/Unspecified" category should only be used when the facility does not fall within any of the defined classifications. In many cases if the facility does not fall within one of the defined categories, a licensed operator may have minimal impact on plant operation. Alternative mechanisms to ensure proper operation and maintenance may be more appropriate and should be evaluated.



## Attachment B

### Board for Waterworks and Wastewater Works Operators Regulation Part IV Classification Requirements 18 VAC 160-20-130. Wastewater works.

- A. A Class IV wastewater works licensee may operate any wastewater works as follows:
1. A wastewater works employing natural treatment methods (i.e., those not utilizing aerated or mixed flows and not using electrical or outside energy sources to accomplish treatment) with a design hydraulic capacity greater than 0.04 MGD but equal to or less than 1.0 MGD; or
  2. A wastewater works classified by the Virginia Department of Health or the Virginia Department of Environmental Quality as a Class IV wastewater works.
- B. A Class III wastewater works licensee may operate any wastewater works as follows:
1. A wastewater works using biological treatment methods consisting of but not limited to (i) suspended growth reactors, (ii) aerated lagoons, (iii) constructed wetlands, (iv) biological filters or other attached growth contactors, (v) processes utilizing biological nutrient control, or (vi) processes utilizing land application having a design hydraulic capacity greater than 0.04 MGD, but equal to or less than 0.5 MGD;
  2. A wastewater works using advanced waste treatment methods consisting of but not limited to (i) ammonia stripping, (ii) breakpoint chlorination, (iii) carbon adsorption, (iv) chemical coagulation, (v) flocculation, (vi) precipitation, (vii) filtration, or (viii) demineralization (ion exchange, reverse osmosis or electro dialysis) having a design hydraulic capacity greater than 0.04 MGD, but equal to or less than 0.5 MGD;
  3. A wastewater works using combinations of biological and advanced waste treatment methods having a design hydraulic capacity greater than 0.04 MGD, but equal to or less than 0.1 MGD;
  4. A wastewater works using natural treatment methods (i.e., those not using aerated or mixed flows and not using electrical or outside energy sources to accomplish treatment) with a design hydraulic capacity greater than 1.0 MGD; or
  5. A wastewater works classified by the Virginia Department of Health or the Virginia Department of Environmental Quality as either a Class III or IV wastewater works.

C. A Class II wastewater works licensee may operate any wastewater works as follows:

1. A wastewater works using biological treatment methods consisting of but not limited to (i) suspended growth reactors, (ii) aerated lagoons, (iii) constructed wetlands, (iv) biological filters or other attached growth contactors, (v) processes utilizing biological nutrient control, or (vi) processes utilizing land application having a design hydraulic capacity greater than 0.5 MGD, but equal to or less than 5.0 MGD;
2. A wastewater works using advanced waste treatment methods consisting of but not limited to (i) ammonia stripping, (ii) breakpoint chlorination, (iii) carbon adsorption, (iv) chemical coagulation, (v) flocculation, (vi) precipitation, (vii) filtration, or (viii) demineralization (ion exchange, reverse osmosis or electrodialysis) having a design hydraulic capacity greater than 0.5 MGD, but equal to or less than 5.0 MGD;
3. A wastewater works using combinations of biological and advanced waste treatment methods, having a design hydraulic capacity greater than 0.1 MGD, but equal to or less than 2.5 MGD; or
4. A wastewater works classified by the Virginia Department of Health or the Virginia Department of Environmental Quality as either a Class II, III or IV wastewater works.

D. A Class I wastewater works licensee may operate any wastewater works.